

REMARKS

Claims 1-4, 12, 13, 28, 29 and 34 are pending in the present application and are rejected.

Claims 1-4 are herein amended. No new matter has been added

Amendments

Applicants herein revise claims 1 and 2 in order to improve their clarity and form. Applicants herein amend claims 3 and 4 in order to rewrite these claims in independent form including all of the limitations of the base claim. Applicants submit that this amendment does not raise new issues requiring further search or consideration. No new matter has been added.

Applicants' Response to Claim Rejections under 35 U.S.C. §102

Claims 1-4, 12, 13, 28 and 29 were rejected under 35 U.S.C. 102(e) as being anticipated by Miyashita et al. (U.S. Patent No. 5,861,054).

It is the position of the Office Action that Miyashita discloses the embodiments as claimed. Miyashita discloses a semiconductor device fabrication method comprising: the step of polishing a surface of a polishing film 12 by using a CVD-oxide film 3 as a stopper film (first CMP step) (column 8, lines 10-19 and FIGs. 5G-5H); the step of etching the CVD-oxide film 3 (column 8, lines 20-24 and FIG. 5I); the step of polishing an upper part of the polishing film 12 by using a nitride film 2 as a stopper film (second CMP step) (column 8, lines 25-33 and FIG. 5J). In Miyashita, a polishing slurry used in the first CMP step and a polishing slurry used in the second CMP step are the same kind of polishing slurry (column 8, lines 29-33).

In response, Applicants respectfully submit that Miyashita does not disclose or suggest further polishing the surface of the film-to-be-polished with the polishing pad while a second polishing material comprising the polishing slurry and water is being supplied onto the polishing pad as required by claim 1.

In the claimed embodiments, the polishing materials used in the first and second polishing steps are different. In the first polishing step, a polishing material comprising polishing slurry (which comprises abrasive grains and a surfactant) is used. In the second polishing step, a polishing material comprising the same polishing slurry and water is used. Thus, the first and second polishing materials are different, even though the same polishing slurry is used in the first and second polishing materials. Rather, in Miyashita, only polishing slurry is used in the second CMP step. In Miyashita, water is not supplied onto a polishing pad in the second CMP step (see column 8, lines 25-33). In other words, in Miyashita, the first and second polishing steps use the same polishing material. Thus, Miyashita does not disclose or suggest the “further polishing” step of claim 1. Accordingly, Applicants respectfully submit that claim 1 is not anticipated by Miyashita, since the reference does not teach each and every limitation of claim 1. Favorable reconsideration is respectfully requested.

Similarly, Applicants respectfully submit that Miyashita does not teach or suggest further polishing the surface of the film-to-be-polished with the polishing pad while a second polishing material comprising a mixture of the polishing slurry and water is supplied onto the polishing pad as required by claim 2.

In Miyashita, only polishing slurry is used in the second CMP step. In Miyashita, a mixture of polishing slurry and water is not supplied onto the polishing pad in the second CMP step (see column 8, lines 25-33). The same polishing material is used in the first and second polishing steps of Miyashita. Accordingly, Applicants respectfully submit that claim 2 is not anticipated by Miyashita, since the reference does not teach each and every limitation of claim 2. Favorable reconsideration is respectfully requested.

Furthermore, in addition to the above comments regarding polishing slurry and water, Applicants respectfully submit that Miyashita does not disclose or suggest that “the water is supplied to a position outer of a position for the polishing slurry to be supplied to” as recited in claim 3. Accordingly, Applicants respectfully submit that claim 3 is not anticipated by Miyashita, since the reference does not teach each and every limitation of claim 3. Favorable reconsideration is respectfully requested.

Finally, in addition to the above comments regarding a mixture of polishing slurry and water, Applicants respectfully submit that Miyashita does not disclose or suggest “a supply amount of the water is 2 or more times as much as a supply amount of the polishing slurry” as recited in claim 4. Accordingly, Applicants respectfully submit that claim 4 is not anticipated by Miyashita, since the reference does not teach each and every limitation of claim 4. Favorable reconsideration is respectfully requested.

Next, Applicants discuss the dependent claims. Claims 12 and 28 depend on claim 1, while claims 13 and 29 depend on claim 2. As discussed above, Miyashita does not disclose the features recited in claims 1 and 2. Accordingly, Applicants respectfully submit that claims 12,

13, 28 and 29 are patentable at least due to their dependency on claims 1 and 2, which Applicants submit are patentable for at least the above reasons. Accordingly, withdrawal of the rejection of claims 12, 13, 28 and 29 is hereby solicited. Favorable reconsideration is respectfully requested.

Applicants' Response to the Claim Rejection under 35 U.S.C. 103

Claim 34 was rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al (U.S. Patent No. 5,861,054).

It is the position of the Office Action that Miyashita discloses the invention as claimed, with the exception of disclosing the ratio of polishing slurry to water. The Office Action argues that this would have been obvious.

In response, Applicants respectfully submit that claim 34 is patentable at least due to its dependency on claim 1, which Applicants submit is patentable for at least the reasons discussed above. Favorable reconsideration is respectfully requested.

CONCLUSION

In view of the aforementioned amendments and accompanying remarks, Applicants respectfully submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

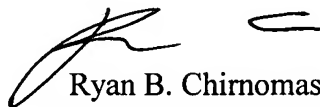
Application No.: 10/823,729
Art Unit: 2818

Amendment under 37 C.F.R. §1.111
Attorney Docket No.: 042341

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned attorney.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP



Ryan B. Chirnomas
Attorney for Applicants
Registration No. 56,527
Telephone: (202) 822-1100
Facsimile: (202) 822-1111

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